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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of)
)
HAWAIIAN ELECTRIC COMPANY, INC.)
)
For Approval and/or Modification)
of Demand-Side and Load Management)
Programs and Recovery of Program)
Costs and DSM Utility Incentives)
_____)

DOCKET NO. 05-0069

PUBLIC UTILITIES
COMMISSION

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POST HEARING BRIEF OF THE COUNTY OF MAUI

AND

CERTIFICATE OF SERVICE

DEPARTMENT OF THE CORPORATION COUNSEL 205

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POST HEARING BRIEF OF THE COUNTY OF MAUI

I.
Applicability

This Post Hearing Brief by the County of Maui ("COM") is directed at DSM issues pertinent to Hawaiian Electric Company, Maui Electric Company, and Hawaii Electric Light Company (together referred to as "HECO"). We do not take any positions relative to DSM issues relating to The Gas Company and Kauai Island Utility Cooperative.

II.

Overview of the County of Maui's Position on Statewide Issues

The County of Maui distinguishes itself from the other Parties and Participants in the instant proceeding by addressing issues relating to emerging distributed generation DSM technologies, such as combined heat and power systems, dispatchable

standby generators, building-integrated photovoltaic systems, and plug-in hybrid electric vehicles. These emerging DSM technologies, when enabled with emerging broadband-over-powerlines ("BPL") and other "smart grid" technologies, have the potential over the long term to substantially solve Maui County's most critical energy problems. Distributed generation DSM, especially plug-in hybrid electric vehicle technologies, can significantly address in the long term: 1) utility regulation needs, 2) utility reliability needs, 3) utility petroleum fuel needs and peak power needs by stabilizing and "firming-up" large amounts of intermittent renewables on the grid, 4) customer ground transportation energy needs through fuel switching from petroleum fuels to electricity, 5) customer reliability and emergency power needs, and 6) customer electrical storage needs.¹

The Hawaii earthquake of October 15, 2006 provide a useful example of how "smart grid" enabled distributed generation DSM systems can address utility and consumer needs in ways not achievable with existing utility and consumer technologies. Further, this example points out why the Commission needs to institute DSM policies that are forward-looking.

For the following example, it is presumed that

¹ See, COM Final Statement of Position, Exhibit 1, "Vehicle-to-grid power implementation: From stabilizing the grid to supporting large-scale renewable energy."

earthquakes similar to the earthquake we experienced on October 15, 2006 hit a future hypothetical Maui grid enabled with distributed generation and "smart grid" technologies.

Prior to the hypothetical earthquake, combined heat and power ("CHP") units and building-integrated photovoltaic systems (assuming it is daytime) would be powering on-site facilities, feeding excess power into the grid, and/or recharging batteries in plug-in hybrid electric vehicles ("PHEVs"). Parked PHEVs, under contract with the electric utility, would be plugged-in and providing the electric utility with demand-side management regulation services, operating reserves, and electrical storage, allowing the electric utility to integrate large amounts of intermittent renewable energy onto the grid.

Immediately after the hypothetical earthquake, as utility power plants begin to shut down, dispatchable standby generators and battery energy from PHEVs are brought on the grid to compensate for the loss. If enough PHEVs are on the grid, it is conceivable that a blackout can be significantly minimized or avoided. However, if a blackout is not prevented, then the distributed generation systems would operate independently from the grid, in electrical "islands." For example, individual homes could be powered by PHEVs and photovoltaic systems upon being disconnected from the grid. Businesses and critical infrastructure could be powered by CHP, dispatchable standby generators, photovoltaic

systems, and/or PHEVs. We note that these "islanded" homes and businesses could also be considered curtailable loads/peak shaving resources under normal operating conditions. In a fully built-out distributed generation scenario, areas like Kaanapali could be "islanded," with interconnected distributed generation systems powering the hotels, condos, shopping areas, traffic lights, and other facilities.

Present energy efficiency and load management DSM technologies are popular and important resources, but even if Maui Electric Company attains 100% of its maximum achievable potential for its current DSM programs, Maui County would still experience most of the hardships associated with centralized power generation and the use of imported oil, such as blackouts; oil supply disruptions; high crude oil, electricity, and gasoline price spikes; oil spills; and potential greenhouse gas mitigation impacts. Therefore, the County of Maui recommends that the Hawaii Public Utilities Commission ("Commission") adopt the following recommendations.

III.

Actions the COM Recommend the Commission Implement in this Docket

A. Demand-side Management Definition

The COM recommends that the definition for DSM should be broad enough to accommodate emerging distributed generation DSM

technologies and their new applications. Accordingly, the COM supports the position of the Hawaii Solar Energy Association on this matter, which recommends that the Commission adopt the DSM definition used by the California Public Utilities Commission.²

B. Interactions Between the Instant Proceeding and Maui Electric Company's ("MECO's") Integrated Resource Planning ("IRP")

1. MECO IRP-3 Filing Time Extension Request

The COM supports the intent of the Life of the Land ("LOL") recommendation to skip Hawaiian Electric Company's IRP-4 and instead, to incorporate the anticipated regulatory changes of the instant proceeding into Hawaiian Electric Company's IRP-5.³ The intent LOL recommendation appears logical because Hawaiian Electric Company's IRP-4 would become somewhat irrelevant should the Commission change the regulatory regime for DSM.

The intent of LOL's recommendation is also pertinent to MECO, though the timing of the MECO IRP cycle differs from the timing of the Hawaiian Electric Company IRP cycle. The COM feels that it would be a waste of planning effort to complete the MECO IRP-3 now, then to implement a new regulatory regime for DSM in the MECO IRP-4.

It is the COM's understanding that MECO has or will file

² Statement by Rick Reed, Hawaii Solar Energy Association, Panel Hearing Closing Statement, September 1, 2006.

³ Life of the Land, Panel Hearing, September 1, 2006.

for a six-month extension for the filing of its IRP-3. We understand that this extension is intended to allow MECO to incorporate the requirements of the Commission relating to competitive bidding.⁴ The COM feels that it was appropriate for the Commission to require MECO to incorporate competitive bidding requirements in the MECO IRP-3 and that it is also appropriate for MECO to request an extension to incorporate competitive bidding procedures now, instead of in the MECO IRP-4. Accordingly, the COM recommends that the Commission grant MECO a time extension; however, the deadline for the submittal of the MECO IRP-3 should not be set at the present time, but set following the final Decision and Order for the instant proceeding, so that enough time can be added to the time extension to allow MECO to incorporate any new DSM requirements of said Decision and Order. In the period before the final Decision and Order, MECO can use the time to incorporate competitive bidding requirements in its IRP-3. Then, when the Commission issues its final Decision and Order for the instant proceeding, the Commission can determine the appropriate length of the time extension. To illustrate this recommendation, the following hypothetical situation is offered:

- November 2006: The Commission grants MECO a minimum six-month extension for its IRP-3, but leaves the IRP filing deadline open.

⁴ Pursuant to Decision and Order No. 22588.

- April 2007 (six months later): The Commission issues its final Decision and Order for the instant proceeding. The Commission then asks MECO for its estimated time needed to incorporate any new DSM requirements, and subsequently, issues a new deadline for the MECO IRP-3, say six months later for example. If the Commission issues a Decision and Order before April, then additional time should be included in the deadline to accommodate the conclusion of unfinished competitive bidding requirements.
- October 2007: MECO files its IRP-3 plan.

The COM believes that this approach would allow MECO to develop a comprehensive and usable IRP plan, in the least amount of time. MECO would continue to file annual updates until it submits its IRP-3, thereby preventing any utility operational problems.

2. Goals

The COM recommends that the Commission require MECO to incorporate into its current IRP plan, DSM goals pursuant to the recommendations of the CA.⁵ The COM supports the position of the State Division of Consumer Advocacy ("CA") on this matter because the COM believes that better DSM portfolios will be developed if specific planning objectives are targeted by goals, as proposed by the CA. Furthermore, the goals of each electric utility should take into account all distributed generation DSM technologies

⁵ See CA Final Statement of Position, pp. 31-33.

projected to be commercially viable in the planning time frame.

3. Market Structure

The COM recommends that a third-party administrator be established to provide, at a minimum, administration of distributed generation DSM programs. This recommendation is offered because HECO indicated that it will not voluntarily provide distributed generation DSM programs.⁶

The COM further recommends that the Commission use the IRP process to determine whether a third-party administrator should be used for various DSM programs. This approach is similar to the approach taken by the Commission in the Competitive Bidding Docket (Docket No. 03-0372), whereby the IRP process is used to "identify those resources for which competitive bidding is appropriate, and those for which waivers are necessary."⁷

4. Additional Roles of the Commission

The COM supports the seven recommendations from the CA to improve the delivery of DSM programs.⁸ Implementation of these recommendations by the Commission, to the extent practicable, would support the delivery of DSM, regardless of the market structure.

⁶ Response of Alan Hee, HECO, to Calvin Kobayashi, COM; Panel Hearing, Panel C, August 30, 2006.

⁷ See Decision and Order No. 22588, p.21.

⁸ See CA Statement of Position, pp. 25-27.

5. Enabling DSM Technologies

Broadband-over-powerlines ("BPL") and other emerging "smart grid" technologies will enable distributed generation DSM technologies to provide new services, such as regulation services, operating reserves, and "firming-up" intermittent renewables. Therefore, the COM recommends that the Commission require MECO to prepare a "smart grid" action plan as a follow-up to its IRP-3 submission. The "smart grid" action plan would identify the preliminary costs and benefits of a BPL-enabled grid and the strategies for developing "smart grids" in Maui County, if appropriate.

IV.

Summary

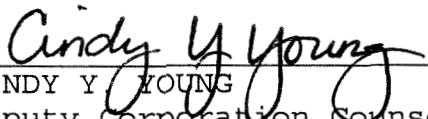
The COM offers two main recommendations. First, we recommend that distributed generation technologies be treated by the Commission as important DSM technology options. Second, we recommend that the Commission use the IRP process to address DSM planning and implementation issues, such as the establishment of DSM goals, the establishment of DSM portfolios incorporating distributed generation, the determination of the DSM program administrator(s), and the investigation of the future role of

emerging distributed generation DSM technologies, in the context of
a BPL-enabled "smart grid".

DATED: Wailuku, Maui, Hawaii, October 23, 2006.

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